

IN THE ABSTRACT:

Please add the abstract as follows:

A method of queuing variable size data packets in a communication system comprises generating from an incoming data packet a record portion of predetermined fixed size and containing information about the packet, the data in the packet being in a data portion; storing data portions in independent memory locations in a first memory with each data portion having no connection with any other; storing record portions in one or more managed queues in a second memory having fixed size memory locations equal in size to the size of the record portions; wherein: the first memory is larger and has a lower address bandwidth than the second memory; and the memory locations in the first memory are arranged in blocks having a plurality of different sizes and the memory locations are allocated to the data portions according to the size of the data portions. Conveniently, there may be two sizes of memory location in the first memory arranged in two blocks, one of a size to receive relatively small data portions and the other of a size to receive relatively large data portions. Data portions that are too large to be stored in a single memory block are stored as linked lists in a plurality of blocks with pointers pointing to the next block but without any pointers pointing from one data portion to the next data portion of the packet. The memory locations in the blocks are preferably matched to the most commonly occurring sizes of data packets in the communication system. The memory locations in the first memory are preferably allocated from a pool of available addresses provided to it in batches from a central pool of available addresses.